POOR LEGIBILITY

PORTIONS OF THIS DOCUMENT MAY BE UNREADABLE, DUE TO THE QUALITY OF THE ORIGINAL

South Carolina Department of Health and Environmental Control

Received
OCT 0 3 1989
2259

2600 Bull Street
Columbia, S.C. 29201

Commissioner
Michael D. Jarrett

September 27, 1989

Mrs. Susan Deihl
US EPA Region IV
345 Courtland St.
Atlanta, GA 30365

Re: Submittal of Preliminary Assessment

Dear Mrs. Deihl:

Enclosed please find a PA on Three Lakes Dump, SCD 987 566 049 which was given a low priority.

If you have any questions please contact me at (803)734-5200.

Sincerely,

Kathy M. Williams
Site Screening Section
Bureau of Solid & Hazardous
Waste Management

kmw
Enclosures

PRELIMINARY ASSESSMENT
HAZARDOUS RANKING SYSTEM SCORING SUMMARY

FOR

SCD987566049

THREE LAKES DUMP

EPA REGION: IV

SCORE STATUS: In preparation

SCORED BY: SUSAN K. SNOOK
EMPLOYED BY: SCDHEC

DATE OF THIS REPORT: 09/27/89
DATE OF LAST MODIFICATION: 09/21/89

GROUND WATER ROUTE SCORE:	0.00
SURFACE WATER ROUTE SCORE:	18.18
AIR ROUTE SCORE:	0.00
MIGRATION SCORE:	10.51

COMMENTS

Three Lakes Dump is an illegal dump site that is currently under SC DHEC criminal investigation.

SITE NAME: THREE LAKES DUMP

HRS GROUND WATER ROUTE SCORE

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. Observed release	N	0	0

Comments:
NO GROUND WATER MONITORING WAS CONDUCTED.

2. Route Characteristics:

Depth to Water Table 0 feet
Comments: LAKES WERE FORMED AS WATER FILLED UP THE QUARRY AREA DURING THE CONSTRUCTION OF I-26.

Depth to Bottom of Waste 20 feet
Comments: LAKE DEPTH IS 20 FEET.

Depth to Aquifer of Concern	0 feet	3 X 2	6
Precipitation	48.0 inches		
Evaporation	44.0 inches		
Net Precipitation	4 inches	1	1
Permeability	1.0 x 10^{-7} cm/sec	1	1

Comments: CLAY AND MARL

Physical State		3	3

Comments: GAS

TOTAL ROUTE CHARACTERISTICS SCORE: 11

3. Containment		0	0

Comments:
CONTAINED IN CYLINDERS.

4. Waste Characteristics:

Toxicity/Persistence Matrix Value	18	18

Substance scored: HYDROGEN SULFIDE

Comments: OTHER SUBSTANCES PRESENT: CHLORINE, HYDROGEN CHLORIDE, METHANE, CARBONYL SULFIDE, AND SULFUR DIOXIDE.

(Continued)

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE

4. Waste Characteristics: (Continued)

Other substances present:
CYANIDES (SOLUBLE SALTS),NOS

Waste Quantity:

Cubic Yds	2501		
Drums	0		
Gallons	0		
Tons	0		
Total	2501 Cu. yds.	8	8

Comments: ASSUME THE WORST CASE.

TOTAL WASTE CHARACTERISTICS SCORE: 26

5. Targets:

Ground Water Use (Three mile radius)		1 x 3	3

Comments:
GROUND WATER IS AVAILABLE,BUT NOT PRESENTLY USED.

Distance to nearest well	20000 feet	0	
Population Within 3 Miles:			
Number of Houses	0 x 3.8		
Number of Persons	0		
Number of Connections	0 x 3.8		
Number Irrigated Acres	0 x 1.5		
Total Population Served	0	0	
Distance to Well/Population Served Matrix		0	0

TOTAL TARGETS SCORE: 3

6. If line 1 is 45, multiply 1 x 4 x 5, & divide by 57.33 or if line 1 is 0, multiply 2 x 3 x 4 x 5, & divide by 57.33 to get Sgw

GROUND WATER ROUTE SCORE (Sgw) = 00.00

SITE NAME: THREE LAKES DUMP

HRS SURFACE WATER ROUTE SCORE

CATAGORY/FACTOR	RAW DATA	ASN. VALUE		SCORE
1. Observed release	Y	45		45
Comments: ASSUME AN OBSERVED RELEASE TO SURFACE WATER BECAUSE WASTE WAS DEPOSITED IN THE LAKES.				
2. Route Characteristics:				
Site Located in S/W	.T.			
Site Within Closed Basin	.T.			
Facility Slope	0.7 %			
Intervening Slope	0.0 %			
Facility slope and intervening terrain		0		0
24-Hour Rainfall	4.0 inches	0		0
Distance to Nearest S/W	> 10,560 feet	0	x 2	0
Physical State of Waste		3		3
Comments: GAS				
TOTAL ROUTE CHARACTERISTICS SCORE:				0
3. Containment		0		0
Comments: CONTAINED IN CYLINDERS				
4. Waste Characteristics:				
Toxicity/Persistence Matrix Value		18		18
Substance scored: HYDROGEN SULFIDE				
Comments: OTHER SUBSTANCES: CHLORINE, HYDROGEN CHLORIDE, METHANE, CARBONYL SULFIDE, AND SULFUR DIOXIDE.				
Other substances present: CYANIDES (SOLUBLE SALTS), NOS				

(Continued)

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE

4. Waste Characteristics: (Continued)

Waste Quantity:			
Cubic Yds	2501		
Drums	0		
Gallons	0		
Tons	0		
Total	2501 Cu. yds.	8	8

Comments: UNKNOWN QUANTITY, ASSUME THE WORST CASE

TOTAL WASTE CHARACTERISTICS SCORE: 26

5. Targets:

Surface Water use			
(Three miles Downstream)		2 x 3	6

Comments:
SURFACE WATER USED FOR RECREATIONAL PURPOSES SUCH AS SWIMMING AND FISHING.

Distance to:	
Coastal Wetlands	> 10,560 feet
Fresh-water Wetlands	1000 feet
Critical Habitat	> 5,280 feet
Species Evaluated:	
NO ENDANGERED SPECIES IN AREA.	

Sensitive Environments Score		2 x 2	4
Distance on Static Water	0 feet		
Distance Water Supply Intake	> 15,840 feet		
Number of Houses	0 x 3.8		
Number of Persons	0		
Number of Connections	0 x 3.8		
Number of Irrigated Acres	0 x 1.5		
Total Population Served	0		
Distance Water Intake/Population Matrix		0	0

TOTAL TARGETS SCORE: 10

(Continued)

6. If line 1 is 45, multiply 1 x 4 x 5, & divide by 64.35 or
if line 1 is Ø, multiply 2 x 3 x 4 x 5, & divide by 64.35 to get Ssw

SURFACE WATER ROUTE SCORE (Ssw) = 18.18

SITE NAME: THREE LAKES DUMP

HRS AIR ROUTE SCORE

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. Observed release	X	Ø	Ø

Comments:
NO DOCUMENTED OBSERVED RELEASE.

2. Waste Characteristics:

Reactivity
Comments:

Incompatibility
Comments:

Toxicity:

Waste Quanity:
- Cubic Yds
- Drums
- Gallons
- Tons

Total _____ Cu. yds.

TOTAL WASTE CHARACTERISTICS SCORE:

3. Targets

Population Within 4-mile Radius
- Ø to Ø.25 mile
- Ø to Ø.50 mile
- Ø to 1.ØØ mile
- Ø to 4.Ø miles

Distance to Sensitive Environments:
- Coastal Wetlands feet
- Fresh-Water Wetlands feet
- Critical Habitat feet

Distance to Land uses:
- Commercial/Industrial feet
- Park/Forest/Residential feet
- Agricultural Land feet
- Prime Farmland feet
- Historic Site Within View?

SITE NAME: THREE LAKES DUMP
HRS AIR ROUTE SCORE
(Continued)

CATAGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
TOTAL TARGETS SCORE:			

4. Multiply 1 x 2 x 3

5. Divide line 4 by 35,100 and multiply by 100 to get Sa

AIR ROUTE SCORE Sa = 0.00

HAZARDOUS RANKING SYSTEM SCORING CALCULATIONS

FOR

THREE LAKES DUMP
AS OF: 09/21/89

Ground Water Route Score

Observed Release	0
Route Characteristics	11
Containment	0
Waste Characteristics	26
Targets	3

0 / 57,330 x 100 = 0.00 Sgw

Surface Water Route Score

Observed Release	45
Route Characteristics	0
Containment	0
Waste Characteristics	26
Targets	10

11700 / 64,350 x 100 = 18.18 Ssw

Air Route Score

Observed Release	0
Waste Characteristics	
Targets	

0 / 35,100 x 100 = 0.00 Sa

Summary of Migration Score Calculations

	S	S^2
Ground Water Route Score (Sgw)	0.00	0
Surface Water Route Score (Ssw)	18.18	330.51
Air Route Score (Sa)	0.00	0
$Sgw^2 + Ssw^2 + Sa^2$		330.51
Square Route of $[Sgw^2 + Ssw^2 + Sa^2]$		18.18

$$\frac{\text{Square Route of } [Sgw^2 + Ssw^2 + Sa^2]}{1.73} = Sm: \ 10.51$$

South Carolina Department of Health and Environmental Control

Ref. 2

2600 Bull Street
Columbia, S.C. 29201

Commissioner
Michael D. Jarrett

MEMORANDUM

TO: John Cresswell, Manager
Site Screening Section
Division of Site Engineering and Screening
Bureau of Solid and Hazardous Waste Management

FROM: Judy Canova, Hydrologist JC
Superfund and Solid Waste Section
Division of Hydrogeology
Bureau of Solid and Hazardous Waste Management

DATE: June 9, 1989

RE: Three Lakes Dump Site
SCD 987 566 049
Charleston County
Preliminary Assessment - Hydrogeologic Review

A hydrogeologic review of the referenced site has been conducted to assist in completing a preliminary assessment for the Superfund program. The purpose of the hydrogeologic review is to provide information regarding the groundwater migration route of potential contaminants. It includes information obtained from South Carolina Water Resources Commission well tabulations, available site specific information from state files, a target survey using United States Geological Survey topographic quadrangles, and a literature review.

According to Park (1985), the following geologic units underlie the site:

Name	Description	Yield	Depth of Occurrence
Undifferentiated Pleistocene Sediments	Heterogeneous mixture of sands, clays, and shell fragments	0-200 gpm	0 to 25 feet
Cooper Group	Sandy fine grained limestones, marl, limey clay	N/A	25 to 225 feet

Santee	Fine to coarse grained limestone	Ø to 3ØØ gpm	225 to 325 feet
Black Mingo	Sandy limestone interbedded with sand and silty clay	3ØØ to 5ØØ gpm	325 to 375 feet
Pee Dee	Calcareous clayey sand, sandy clay and calcareous clay	Less than 3ØØ gpm	375 to 8ØØ feet

These formations only include those lithologic units at the surface and those extending through potential aquifers of concern. The referenced facility is not in an area of karst topography. Depth to bedrock is approximately 2,5ØØ feet (Park, 1985).

The Upper Cooper unit is a laterally extensive deposit of low hydraulic conductivity that likely restricts the vertical migration of groundwater (Park, 1985). There are no alternate, unthreatened sources of potable groundwater within the four mile site radius.

Because the site is located in a lake, there is no relevant unsaturated zone to retard contaminant migration. Based on topographic relief and surface drainage, the depth to groundwater in the two mile radius is estimated to be between Ø-2Ø feet. The predominant groundwater flow direction appears to be towards the southeast in the surficial unconfined aquifer. Groundwater flow in the deeper, possibly confined, Santee appears to be towards the east (Park, 1985). Groundwater flow in the Black Mingo is likely to the south (Park, 1985), and flow directions in the Pee Dee are unknown.

A well inventory within a radius of four miles of the site does not reveal any use of groundwater from any potential aquifers of concern.

cc: Christine Sanford, Trident District

References Cited:

Park, A. D., 1985, The Groundwater Resources of Charleston, Berkeley, and Dorchester Counties, South Carolina: S.C. Water Resources Commission Report # 139, 146 p.

Ref. 3

RECORD OF COMMUNICATION

_x_ Phone Call
____ Discussion
____ Field Trip
____ Conference
____ Other (Specify)

TO: Three Lakes Dump File FROM: Susan Snook

DATE: July 13, 1989 TIME: 2:30 P.M.

SUBJECT: Conversation with Charleston County Clemson Extension Agent, Mr. Bollin.

SUMMARY OF COMMUNICATION

Mr. Bollin stated that he does not know of any ground water irrigation within a four mile radius of the site. He also does not know of any surface water irrigation 15 miles downstream of the site.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

No known surface water or ground water irrigaton.

INFORMATION COPIES
TO:

Ref. 4

RECORD OF COMMUNICATION

_x_ Phone Call
____ Discussion
____ Field Trip
____ Conference
____ Other (Specify)

TO: Three Lakes Dump File FROM: Susan K. Snook

DATE: July 3, 1989 TIME: 3:10 P.M.

SUBJECT: Conversation with Wayne Fanning, EQC District Consultant for Charleston County.

SUMMARY OF COMMUNICATION

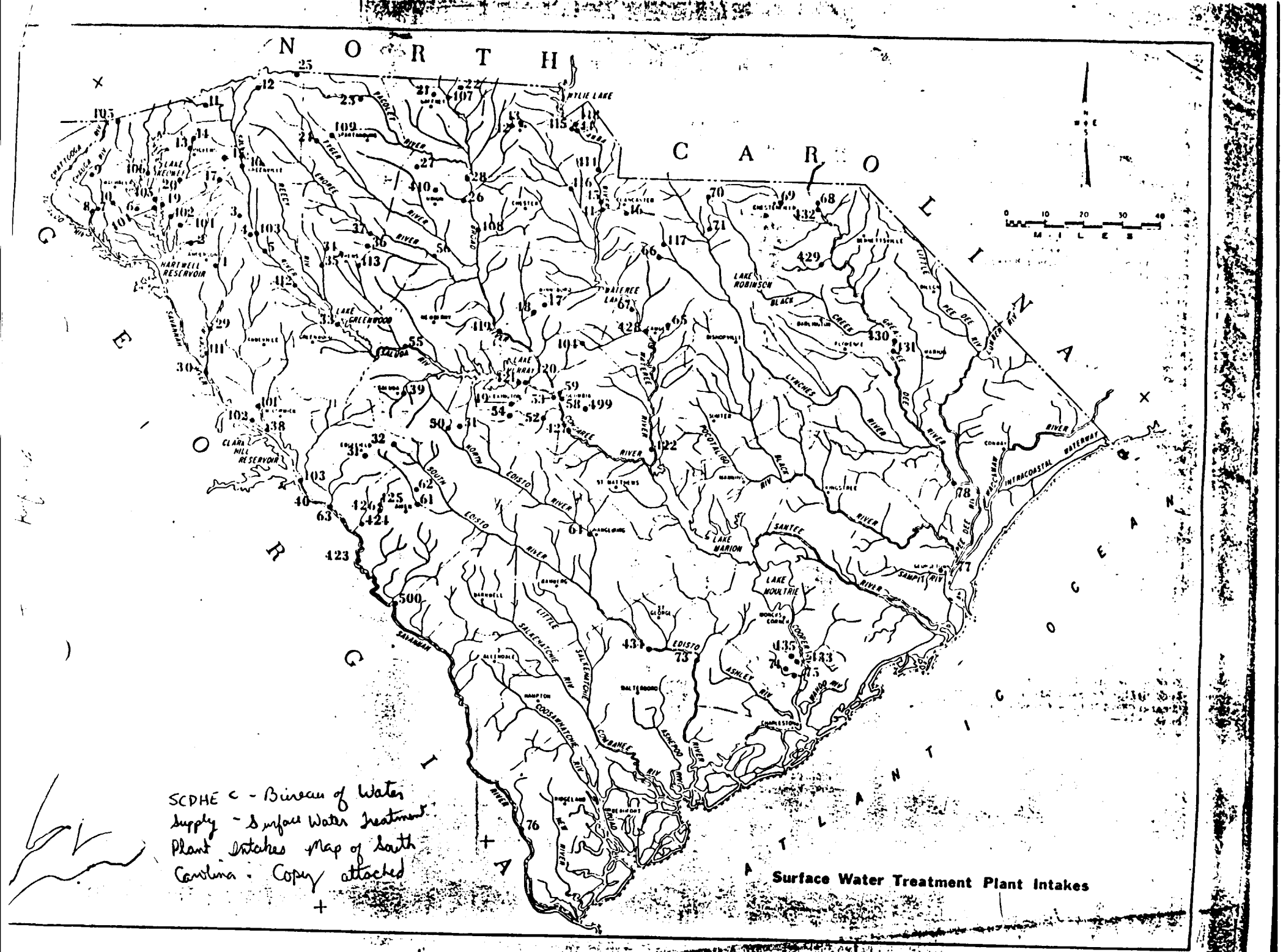
Mr. Fanning stated that he has never observed any surface water outlets leading from the lakes. If surface water were to flow from the lakes it could possibly flow east down Noisette Creek to the Cooper River. Surface water could also possibly flow southwest through freshwater wetlands to the Ashley River.

Fresh water wetlands are located adjacent to the site.

Mr. Fanning has observed people swimming and fishing. Rafts have commonly been left on the shore by children.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO:



SCDHEC - Bureau of Water Supply - Surface Water Treatment Plant Intakes Map of South Carolina - Copy attached

SITE DISCOVERY FORM

ACTION: A 4850

EPA ID: SCD987660 49 SOURCE: T (R=EPA, T=STATE)

SITE NAME: Three Lakes (40 chr. max.)

LOC. ADDRESS: Three Lakes Rd 0.3 mile W. of Arco Lane (40 chr. max.)

CITY NAME: N. Charleston (25 chr. max.) ZIP CODE: 29406-

COUNTY: Charleston (15 chr. max.)

COUNTY CODE: 019 (optional) CONG DIST: 01 (optional)

LATITUDE: __/__/__.__ LONGITUDE: ___/__/__.__

SITE DESCRIPTION: Second lake on 3 Lakes Rd., owned by Robert B. Russell, 149 East Bay St., Charleston. Gas cylinders sitting in the edge of a lake (160 chr. max.)

DISTRICT NAME: Trident (10 chr. max.)

SITE DISCOVERY DATE: 02/05/88

REPORTED BY: Wayne Fanning

REASON FOR LISTING: Pressurized gas cylinders of CO, H_2S, HCl, SO_2, CS_2, CH_4, Cl_2 according to the label, were discovered in the edge of a lake

Ref. 9

SITE DISCOVERY FORM

ACTION: A

EPA ID: _____ SOURCE: T (R=EPA, T=STATE)

SITE NAME: Three Lakes _____ (40 chr. max.)

LOC. ADDRESS: Three Lakes Rd 0.3 mile W. of Arco Lane _____ (40 chr. max.)

CITY NAME: N. Charleston _____ (25 chr. max.) ZIP CODE: 29406-_____

COUNTY: Charleston _____ (15 chr. max.)

COUNTY CODE: 019 (optional) CONG DIST: 01 (optional)

LATITUDE: 32/51/50.__ LONGITUDE: 080/00/27.__

SITE DESCRIPTION: Second Lake on 3 Lakes Rd, owned by Robert B. Russell, 149 East Bay St., Charleston. Gas cylinders sitting in the edge of a Lake _____ (160 chr. max.)

DISTRICT NAME: Trident ___ (10 chr. max.)

SITE DISCOVERY DATE: 02/05/88

REPORTED BY: Wayne Fanning

REASON FOR LISTING: Possuring gas cylinders of CO, H_2S, HCL, SO_2, CS_2, CH_4, Cl. according to the label, were discovered in the edge of a lake

Ref. 14

RECORD OF COMMUNICATION

____ Phone Call
_x_ Discussion
____ Field Trip
____ Conference
____ Other (Specify)

TO: Three Lakes Dump File FROM: Susan Snook

DATE: 7-21-89 TIME: 11:00 A.M.

SUBJECT: Conversation with Gil Trentanove about the third lake at the dump site.

SUMMARY OF COMMUNICATION

Gil stated that the third lake is not considered in the investigation. An informant notified him that no waste has been deposited in the third lake. This is probable because the third lake is located on a construction site. None of the workers ever observed dumpings in lake C.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO:

SELECTED GEOGRAPHIC AREAS (1/4-MILE)
FROM 1980 CENSUS TAPE STF1B, TABLE 1

COUNTY=CHARLESTON

TRACT	BLOCK	TOTAL POPULATION
31.02	922	5
31.02	922	183
38.00	318	62
-----		---
CNTY		250
		===
		250

1/4 total - 250
1/2 total 1,397
1 mile total - 7,8?7
2 mile total - 39,5??
3 mile total - 91,3??
4 mile total - 16?,??2

SOURCE: STATE DATA CENTER, DIV. OF RES. & STAT. SERVICES.
NOTE : DETAIL MAY NOT SUM TO TOTALS DUE TO ROUNDING.

Ref. 15

Ref. 16

Current and projected population for the Ashley-Cooper River Sub-basin, South Carolina, 1980-2020.

County	% Population in Sub-basin[a]	Population (in thousands)					% Change 1980-2020
		1980	1990	2000	2010	2020	
Berkeley	87.1	83.4	120.6	166.0	213.1	243.1	191.5
Charleston	93.8	260.8	294.0	311.9	326.2	333.7	28.0
Dorchester	63.1	37.2	56.5	82.0	109.8	128.3	244.9
Total		381.4	471.1	559.9	649.1	705.1	84.9

[a] Estimated percent of total county population living within the hydrologic boundary of the sub-basin (S.C. Water Resources Commission, 1975).

Sources: S.C. Division of Research and Statistics, 1981.
S.C. Water Resources Commission, 1981.

In the sectors of manufacturing, mining, and public utilities, the region had an annual product value of $1,620.3 million during fiscal year 1978-79, which was 7.5 percent of the State total.

Agricultural activity is not very intense in this section of the State, although Charleston County did rank 12th in the State for cash crop receipts from farm marketings in 1979, with a total of $19,615 million.

SURFACE WATER

Hydrology

The two major freshwater rivers draining this sub-basin are the Ashley River and the Cooper River. These tidally influenced rivers along with several saltwater tidal creeks and rivers discharge into Charleston Harbor. Numerous tidal streams draining developed and undeveloped areas along the coast discharge into the Atlantic Ocean. All streams in the sub-basin are entirely within the Lower Coastal Plain. A segment of the Ashley River from S.C. Highway 165 bridge to the Seaboard Coastline Railroad bridge near North Charleston has been determined eligible for inclusion in the State Scenic Rivers Program. The Charleston metropolitan area makes extensive use of these surface-water resources.

Streamflow data in this sub-basin is somewhat limited. Routine streamflow monitoring by the U.S. Geological Survey is not performed. Special studies, however, have provided some hydrologic information. Streamflow in the Cooper River is regulated by releases from the Pinopolis Hydroelectric Plant. Current weekly average discharge at Pinopolis is 15,600 cfs and is highest during the winter months and lowest in the autumn months (S.C. Water Resources Commission, 1979). The majority of the water discharged at Pinopolis has been diverted from the Santee River into Lake Moultrie. Construction is underway to redivert much of this water back into the Santee River. Upon completion of the rediversion project, planned for 1983, weekly average discharge at Pinopolis will be reduced to 3,000 cfs.

Streamflow within this sub-basin provides a limited source of freshwater and after completion of the rediversion project available supplies will decrease even more. Currently, the impoundment of freshwater streams within the sub-basin and the transfer of water from outside the sub-basin provide most available surface-water supplies.

Development

Most surface-water development in this coastal sub-basin includes navigation projects in and around the Port of Charleston and flood control projects in urbanized areas (Fig. 115). In addition, hydroelectric development has resulted in the creation of one of the largest lakes in South Carolina.

Lake Moultrie is the largest reservoir in the sub-basin (Table 103). The completion of the Pinopolis Dam in 1941 created the lake which is located on the Cooper River north of Moncks Corner and is owned and managed by the S.C. Public Service Authority (Santee-Cooper). It is the fourth largest lake in the State with a surface area of 60,400 acres. A volume of approximately 1,200,000 acre-feet ranks it fifth in that category among lakes in the State. Presently, Lake Moultrie's waters flow down the Cooper River and enter Charleston Harbor. In order to help alleviate a severe silting problem in the harbor, a canal is being constructed near St. Stephens to redivert Lake Moultrie's waters into the Santee River, thereby reducing the average flow of the Cooper River from its present 15,600 cfs to 3,000 cfs. Since this diversion of water will greatly reduce the output of electricity from the Jefferies Hydropower facility at Pinopolis Dam, a new hydropower facility is being constructed on the rediversion canal which will compensate for the loss of hydroelectric production. The expected completion date for the project is 1983. In addition to power production, Lake Moultrie is used for recreation and includes a large portion of the Santee National Wildlife Refuge.

The City of Charleston owns two reservoirs, Back River Reservoir and Goose Creek Reservoir, from which it obtains municipal and industrial water supplies. Originally tidally influenced creeks, the two streams were impounded for the storage of freshwater.

South Carolina Department of Health and Environmental Control

4/14

2600 Bull Street
Columbia, S.C. 29201

Commissioner
Michael D. Jarrett

April 6, 1988

Mr. Scott Gardner
US EPA, Region IV
345 Courtland Street
Atlanta, Georgia 30365

RE: Site additions to CERCLIS:

Defense Fuel Support Point - Berkeley County
Three Lakes - Charleston County
Hoover Universal Plant - Charleston County

Dear Scott:

Please add the following sites to CERCLIS.

Site Name - Defense Fuel Support Point
Address - N. Rhett Ext. & Valley St.
City - Hanahan
County - Berkeley
State - South Carolina
Zip Code - 29406

Site Name - Three Lakes
Address - Three Lakes Rd., 0.3 mi. W. of Anco Ln.
City - N. Charleston
County - Charleston
State - South Carolina
Zip Code - 29406

Site Name - Hoover Universal Plant
Address - 7391 Pepperdam Ave., 200 yds S. of Ashley Phosphate Rd.
City - N. Charleston
County - Charleston
State - South Carolina
Zip Code - 29418

If you have any questions, please call.

Sincerely,

Charles S. Strange, Jr.
Site Screening Section
Bureau of Solid and Hazardous
Waste Management

CSSjr:elf

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	1 (3) explosives present	1	3	3	7.1
2 Waste Characteristics					7.2
Direct Evidence	(0) 3 no measurements	1		3	
Ignitability	0 1 2 (3) flammable gases	1		3	
Reactivity	0 1 2 (3)	1		3	
Incompatibility	0 1 (2) 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8) assume worst case	1		8	
Total Waste Characteristics Score			16	20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 (3) 4 5 1500 ft.	1		5	
Distance to Nearest Building	0 1 (2) 3 100 ft.	1		3	
Distance to Sensitive Environment	(0) 1 2 3 > 100 ft.	1		3	
Land Use	0 1 2 (3) Adjacent industries	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 (5) > 30,000	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 (5) > 2,600	1		5	
Total Targets Score			18	24	
4 Multiply 1 x 2 x 3			864	1,440	
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} =	60.0		

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet						
	Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1	Observed Incident No	(0) 45	1		45	8.1
	If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2	Accessibility	0 1 2 (3) No complete barrier	1	3	3	8.2
3	Containment	0 (15) cylinders in lakes	1	15	15	8.3
4	Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5	Targets					8.5
	Population Within a 1-Mile Radius	0 1 2 3 (4) 5 >7,800	4	16	20	
	Distance to a Critical Habitat (endangered species)	(0) 1 2 3 >1 mile	4	0	12	
	Total Targets Score			16	32	
6	If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			1080	21,600	
7	Divide line 6 by 21,600 and multiply by 100		S_{DC} =	50		

FIGURE 12
DIRECT CONTACT WORK SHEET

OVERSIZED

DOCUMENT